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REMARKS

In an office action mailed April 18, 2006, the drawings and claims 2-14, 16-20, 22-25, and 27-29 were objected to, claims 1-3, 5-7, and 21-23 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,396,154 ("Hikita"), claims 15-19 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,576,589 ("Dreifus"), claims 26, 27, and 29 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,296,391 ("Hazama"), claims 4, 8-14, 24, and 28 were rejected under 35 U.S.C. 103(a) over Hikita alone, claims 4, 8-14, 24, and 28 were rejected under 35 U.S.C. 103(a) over Dreifus in view of U.S. Patent No. 6,329,715 ("Hiyashi"), and claim 28 was rejected under 35 U.S.C. 103(a) over Hazama alone. In response thereto, Applicants amend the Specification and claims 2-14, 16-20, 22-25, and 27-29 and respectfully request the reconsideration of the rejections of claims 1-29 and the allowance thereof, thereby placing the application in condition for allowance.

1. OBJECTION TO THE DRAWINGS

The drawings were objected to under 37 C.F.R. 1.84(p)(5) because reference character 340 was not disclosed in the Specification. Applicants have amended the Specification at paragraph [0022] to include a reference to number 340, thereby overcoming this objection.

2. OBJECTIONS TO THE CLAIMS

Claims 2-14, 16-20, 22-25, and 27-29 were objected to for needing a comma between the claim number on which the claim depends and the conjunction such as "wherein". In order to advance the prosecution of the present application, Applicants have made such changes to claims 2-14, 16-20, 22-25, and 27-29. However Applicants note that these amendments are not in any way changes affecting patentability.

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3. REJECTIONS TO THE CLAIMS UNDER 35 U.S.C. 102(b)

Claims 1-3, 5-7, and 21-23 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,396,154 ("Hikita"). However note that Hikita relates to a mother chip 1 and a daughter chip 2 which are interconnected through a chip-on-chip structure. See Hikita at col. 3, lines 46-53. Both chips are contained within the same semiconductor package and are connected together within such package, and the pads by which they are interconnected have no corresponding terminals on the integrated circuit package. Accordingly, Hikita does not show or suggest, at least, "an integrated circuit package . . . having first and second terminal pairs corresponding and coupled to said first and second pairs of bonding pads, respectively" as recited in claim 1, or "an integrated circuit package . . . comprising a first pair of terminals located at a first end of said first side and coupled to said first pair of bonding pads, and a second pair of terminals located at a second end of said first side opposite said first end and coupled to said second pair of bonding pads" as recited in claim 21.

Moreover the Examiner stated that:

"[I]t has been held that an element is 'adapted to' perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138."

Applicants disagree. There is nothing intrinsically wrong with using the phrase "adapted to", Ex parte Ralph B. Brick, Appeal No. 2000-1974, Application No. 08/901,171 (Board of Appeals 2001), citing In re Swinehart, 439 F.2d 210, 213, 169 USPQ 226, 228 (CCPA 1981), and it may be used to impose a capability requirement, Ex parte Kirk D. Prall, Appeal No. 2003-1556, Application 09/288,932 (Board of Appeals 2003) (distinguishing Hutchison as using "adapted to" language in the preamble of the claim as opposed to the body).

The Examiner has failed to show how the capability limitations: "a first pair of bonding pads . . . adapted to be coupled to an input of a first external filter" and "and a second pair of bonding pads . . . adapted to be coupled to an output of said first external filter" recited in claim

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1 are respectively met by the alleged first pair of bonding pads (P23 and P24) and the alleged second pair of bonding pads (P21 and P22) of Hikita. Likewise, the Examiner has failed to show how the capability limitations: "a first pair of bonding pads . . . adapted to be coupled to an input of an external filter" and "a second pair of bonding pads adapted to be coupled to an output of said external filter" recited in claim 22 are respectively met by the alleged first pair of bonding pads (P23 and P24) and the alleged second pair of bonding pads (P21 and P22) of Hikita. Note that Hikita describes daughter chip 2 as containing a surface acoustic wave filter 22, and Hikita does not show or in any way suggest that daughter chip 2 has terminals adapted to be coupled to an external filter.

Claims 2-3 and 5-7 contain additional limitations and distinguish over Hikita for at least the reasons that base claim 1 does. Claims 22-23 contain additional limitations and distinguish over Hikita for at least the reasons that base claim 21 does. Withdrawal of the rejections of claims 1-3, 5-7, and 21-23 under 35 U.S.C. § 102(b) over Hikita is respectfully requested.

Claims 15-19 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,576,589 ("Dreifus"). Applicants note that Dreifus does not disclose a circuit adapted to be coupled to an external filter, but rather a surface acoustic wave (SAW) device having unconnected contact pads 26. In other words, it is not a circuit but is merely a single circuit element. There is no disclosure of a how SAW filter 20 is or may be connected to external circuits. Moreover SAW filter 20 is not necessarily connected to other circuitry through terminals of a package – note that chip-on-chip interconnection is a possibility as well. Thus, Dreifus does not show or suggest "a semiconductor substrate . . . including a first circuit . . . and a second circuit" or "an integrated circuit package encapsulating said semiconductor substrate and having first, second, third, and fourth terminals corresponding and coupled to said first, second, third, and fourth bonding pads, respectively" as recited in claim 15. Moreover since SAW filter 20 is the filter itself, it is not clear how SAW filter 20 is "adapted to be coupled to a first *external* filter . . . through said first and second bonding pads, and . . . adapted to be coupled to a second *external* filter . . . through said third and fourth bonding pads" as recited in claim 15.

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Claims 16-19 contain additional limitations and distinguish over Dreifus for at least the reasons that base claim 15 does. Withdrawal of the rejections of claims 15-19 under 35 U.S.C. § 102(b) over Dreifus is respectfully requested.

Claims 26, 27, and 29 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,296,391 ("Hazama"). Note however that Hazama discloses in FIG. 9 an integrated circuit containing two SAW filter elements, one for UHF, and one for VHF. Hazama does not disclose or suggest that the SAW filter element itself is or is adapted to be coupled to an external filter. Note that Hazama discloses a system in FIG. 1 with a single filter – comb filter 3 – that may be implemented with the SAW filter of FIG. 9B (see for example col. 2, lines 8-17). Thus Hazama does not disclose or suggest any of: "adjacent first and second terminals . . . adapted to be coupled to a differential input of a first external filter", "adjacent third and fourth terminals . . . adapted to be coupled to a differential output of said first external filter", "adjacent fifth and sixth terminals . . . adapted to be coupled to a differential input of a second external filter", and "adjacent seventh and eighth terminals . . . adapted to be coupled to a differential output of said second external filter" as recited in claim 26.

In addition note that the two pairs of input terminals (VHF input terminals 41 and 41', and UHF input terminals 43 and 43') are along the same side of the integrated circuit, and the two pairs of output terminals (VHF output terminals 42 and 42', and UHF output terminals 44 and 44') are along the same side of the integrated circuit. Thus, Hazama does not show or suggest the combination of "adjacent first and second terminals at a first end of *a first side* of the integrated circuit adapted to be coupled to a differential input of a first external filter" and "adjacent third and fourth terminals at a second end of *said first side* of the integrated circuit adapted to be coupled to a differential output of said first external filter". Nor does Hazama show or suggest the combination of: "adjacent fifth and sixth terminals at a first end of *a second side* of the integrated circuit adapted to be coupled to a differential input of a second external filter" and "adjacent seventh and eighth terminals at a second end of *said second side* of the integrated circuit adapted to be coupled to a differential output of said second external filter".

Claims 27 and 29 contain additional limitations and distinguish over Dreifus for at least the reasons that base claim 26 does. Note in particular that "quad flat package" recited in claim

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27 is a term of art signifying a particular package type, and Hazama definitely does not show or suggest the usage of such a package. Indeed it is not clear that Hazama intended to convey any physical description of packaging. Moreover claim 29 recites "wherein each of said first and second external filters comprises a surface acoustic wave (SAW) filter," but in Hazama the elements considered to be the "integrated circuit" is a SAW filter itself. See col. 4, lines 60-63. Hazama does not show or suggest the usage of another SAW filter external to the integrated circuit of FIG. 9B. Withdrawal of the rejections of claims 26, 27, and 29 under 35 U.S.C. § 102(b) over Hazama is respectfully requested.

4. REJECTIONS TO THE CLAIMS UNDER 35 U.S.C. 103(a)

Claims 4, 8-14, 24, and 25 were rejected under 35 U.S.C. § 103(a) over Hikita. Note that these claims recite various additional limitations beyond base claims 1 and 21 that are not shown or suggested by Hikita. These additional limitations will not be described in detail because, as discussed above, limitations missing from base claims 1 and 21 are neither disclosed nor suggested by Hikita. Thus claims 4, 8-14, 24, and 25 are patentable over Hikita for at least the same reasons that base claims 1 and 21 are not shown or suggested by Hikita. Withdrawal of these rejections is respectfully requested.

Claim 20 was rejected under 35 U.S.C. § 103(a) over Dreifus in view of U.S. Patent No. 6,329,715 ("Hayashi"). Applicants noted above that Dreifus does not show or suggest "a semiconductor substrate . . . including a first circuit . . . and a second circuit" or "an integrated circuit package encapsulating said semiconductor substrate and having first, second, third, and fourth terminals corresponding and coupled to said first, second, third, and fourth bonding pads, respectively" as recited in base claim 15. Nor does Hayashi supply these missing limitations. Note that Hayashi discloses in FIG. 5 an active electronic part 5 driving a passive electronic part 4, but it is clear from FIG. 6 that the interconnection of these elements is internal to the integrated circuit package. Withdrawal of this rejection is respectfully requested.

Claim 28 was rejected under 35 U.S.C. § 103(a) over Hazama. Note that claim 28 recites various additional limitations beyond base claim 26 that are not shown or suggested by Hazama.

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These additional limitations will not be described in detail because, as discussed above, limitations missing from base claim 26 are neither disclosed nor suggested by Hazama. Thus claim 28 is patentable over Hazama for at least the same reasons that base claim 28 is not shown or suggested by Hikita. Withdrawal of this rejection is respectfully requested.

CONCLUSION

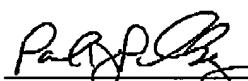
Applicants respectfully submit that all of the claims are allowable and therefore the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims. If, for any reason, the Office is unable to allow the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney or agent.

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

7/5/06

Date



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